

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/868,311

REMARKS

Review and reconsideration on the merits are requested.

Turning first to the rejection of claim 1-6 under 35 U.S.C. § 112, second paragraph, as being indefinite, with respect to line 2 of claims 2 and 5, first the expression “(Pt/Pd atomic ratio)” is deleted. Second, claims 2 and 5 are amended to indicate that the catalyst comprises both platinum and palladium.

With respect to the rejection of claim 6 under 35 U.S.C. § 112, second paragraph, and further under 35 U.S.C. § 101, the rejection is mooted by canceling claim 6.

The following art rejections were posed: claims 1 and 3 were rejected under 35 U.S.C. § 102(b) as anticipated by U. S. Patent 5,036,035 Baba et al (Baba).

Claims 2 and 5 were rejected under 35 U.S.C. § 103(a) and being unpatentable over Baba.

Claims 4 and 6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,837,641 Gosling et al (Gosling) in view of Baba.

The Examiner’s position on the prior art is set forth in detail in the action and will not be repeated here accept as necessary to an understanding of Applicants traversal, which is now presented (except with respect to claim 6 which has been canceled).

Turning first to the anticipation rejection of claims 1 and 3 over Baba, Baba discloses a Pt/SO₄-ZrO₂ catalyst composition and a Pd/SO₄- ZrO₂ catalyst composition. The Baba composition exhibits only an isomerization function. Baba does not disclose hydrodesulfurization nor the excellent sulfur resistance exhibited by the catalyst compositions of the present invention.

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Applicants amend claim 1 to specify that the hydrodesulfurization and isomerization are simultaneously achieved in accordance with the present invention. This emphasizes the critical differences between Baba and the present invention.

Withdrawal of the anticipation rejection over Baba is requested.

With respect to the obviousness rejection of claims 2 and 5 over Baba, Applicants submit they have avoided the obviousness rejection for the reasons advanced above and rely upon their traversal arguments regarding claims 1 and 3.

With respect to the obviousness rejection of claim 4 over Baba further in view Gosling, Gosling does not teach a process for hydrodesulfurization and isomerization. Since Gosling does not teach the "simultaneous" hydrodesulfurization/isomerization of the present claims, Applicants submit that claim 4 (claim 6 has been cancelled) would not be rendered obvious over Gosling in view of Baba. In this regard, Applicants amend claim 4 to make it quite clear that the method of the present invention is one for the simultaneous hydrodesulfurization/isomerization of a light hydrocarbon oil.

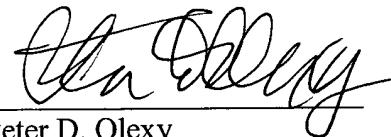
Withdrawal of all rejections and allowance is requested.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claim 6 is canceled.

The claims are amended as follows:

1. (Amended) A catalyst composition for the hydrodesulfurization and isomerization of a light hydrocarbon oil, comprising a support comprising zirconium oxide or a zirconium hydroxide; from 1 to 3 wt% sulfuric acid radicals in terms of a sulfur amount based on the total weight of the catalyst composition; and (1) from 0.05 to 10 wt% palladium, (2) from 0.05 to 10 wt% palladium and from 0.05 to 10 wt% platinum, or (3) from 0.05 to 10 wt% nickel, based on the total weight of the catalyst composition; and having a specific surface area of from 50 to 150 m²/g after stabilization by burning at a temperature of from 550 to 800°C, wherein the hydrodesulfurization and isomerization are simultaneously achieved with the catalyst composition.

2. (Amended) The catalyst according to claim 1, wherein the ratio of the platinum to the palladium (Pt/Pd atomic ratio) is from 0.1 to 4 wherein the catalyst comprises the (2) from 0.05 to 10 wt% palladium and from 0.05 to 10 wt% platinum, and wherein the atomic ratio of the platinum to the palladium is from 0.1 to 4.0.

4. (Amended) A method for the simultaneous hydrodesulfurization and isomerization of a light hydrocarbon oil, comprising bringing a light hydrocarbon oil having a sulfur content of 700 ppm by weight or lower and hydrogen into contact with the catalyst

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composition of claim 1 under reaction conditions of a temperature of from 140 to 400°C, a pressure of from 1.0 to 4.5 MPa, an LHSV of from 1.0 to 10 h⁻¹, and an H₂/oil ratio of from 1 to 3 mol/mol.

5. (Amended) The method according to claim 4, wherein the catalyst comprises the (2) from 0.05 to 10 wt% palladium and from 0.05 to 10 wt% platinum, and wherein the atomic ratio of the platinum to the palladium is from 0.1 to 4.0, wherein the ratio of the platinum to the palladium (Pt/Pd atomic ratio) in the catalyst composition is from 0.1 to 4.

Claims 7, 8, 9 and 10 are added as new claims.